



ISIS0085-100 (ISIS-2960US.C2)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Lex M. Cowsert, et al. : Art Unit: Not Yet Assigned
Serial No.: 10/649,467 : Examiner: Not Yet Assigned
Filed: August 27, 2003 :
For: IDENTIFICATION OF GENETIC :
TARGETS FOR MODULATION
BY OLIGONUCLEOTIDES AND
GENERATION OF
OLIGONUCLEOTIDES FOR
GENE MODULATION

INFORMATION DISCLOSURE STATEMENT

DATE OF DEPOSIT: October 17, 2003
I HEREBY CERTIFY THAT THIS PAPER IS BEING
DEPOSITED WITH THE UNITED STATES POSTAL
SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID
ON THE DATE INDICATED ABOVE AND IS ADDRESSED
TO THE COMMISSIONER FOR PATENTS, P.O. BOX
1450, ALEXANDRIA, VA 22313-1450


TYPED NAME: Paul K. Legaard
REGISTRATION NO: 38,534

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S I R :

Pursuant to 37 C.F.R. § 1.56 and in accordance with §§ 1.97-1.98,
information relating to the above-identified application is hereby disclosed on the
attached PTO/SB/08A. Inclusion of information in this statement is not to be construed
as an admission that this information is material as that term is defined in 37 C.F.R. §
1.56(b).

No first Official Action has yet been received and it is presumed that none has yet been mailed. No fee or certification is required. 37 C.F.R. § 1.97(b).

Respectfully submitted,



Paul K. Legaard
Attorneys for Applicant

Enclosures:
PTO/SB/08A

Dated: 17 October 2003

Cozen O'Connor
1900 Market Street
Philadelphia, PA 19103
Tel: 215-665-2000

**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/649,467	
	Filing Date	August 27, 2003	
	First Named Inventor	Lex M. Cowser	
	Art Unit	Not Yet Assigned	
	Examiner Name	Not Yet Assigned	
Total Number of Pages in This Submission	26	Attorney Docket Number	ISIS0085-100 (ISIS-2960US.C2)

ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s)	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):		
<table border="1"><tr><td>Remarks</td><td>References were previously supplied in parent application 09/067,636, filed April 28, 1998.</td></tr></table>			Remarks	References were previously supplied in parent application 09/067,636, filed April 28, 1998.
Remarks	References were previously supplied in parent application 09/067,636, filed April 28, 1998.			

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Paul K. Legaard/Reg. No. 38,534
Signature	<i>Paul K. Legaard</i>
Date	17 October 2003

CERTIFICATE OF MAILING

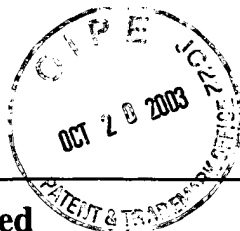
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.			
Typed or printed name	Paul K. Legaard		
Signature	<i>Paul K. Legaard</i>	Date	17 October 2003

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. ISIS0085-100	Serial No. 10/649,467
		Applicant Lex M. Cowsert et al.	
		Filing Date August 27, 2003	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	AA	Albelda et al., "Adhesion molecules and inflammatory injury", <i>FASEB J.</i> , 1994 , 8, 504-512	
	AB	Albert et al., "Antisense knockouts: molecular scalpels for the dissection of signal transduction", <i>TIPS</i> , 1994 , 15, 250-254	
	AC	Altschul et al., "Basic Local Alignment Search Tool", <i>J. Mol. Biol.</i> , 1990 , 215, 403-410	
	AD	Altschul et al., "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", <i>Nucl. Acids Res.</i> , 1997 , 25(17), 3389-3402	
	AE	Ausubel et al., <i>Short Protocols in Molecular Biology</i> , 2nd Edition, Greene Publishing Associates and John Wiley & Sons, New York, 1992 , pages 4-1 to 4-29, 10-33 to 10-35, 10-57 to 10-63, 11-3 to 11-54	
	AF	Baker et al., "Cleavage of the 5' Cap Structure of mRNA by a Europium(III) Macrocyclic Complex with Pendant Alcohol Groups", <i>J. Am. Chem. Soc.</i> , 1997 , 119(38), 8749-8755	
	AG	Buhlmann et al., "Therapeutic Potential for Blockade of the CD40 Ligand, gp39", <i>J. Clin. Immunol.</i> , 1996 , 16(2), 83-89	
	AH	Chiang et al., "Antisense Oligonucleotides Inhibit Intercellular Adhesion Molecule 1 Expression by Two Distinct Mechanisms", <i>J. Biol. Chem.</i> , 1991 , 266, 18162-18171	
	AI	Crooke et al., "Pharmacokinetic Properties of Several Novel Oligonucleotide Analogs in mice", <i>J. Pharmacol. Exp. Therapeutics</i> , 1996 , 277, 923-937	
	AJ	DeMesmaeker et al., "Antisense Oligonucleotides", <i>Acc. Chem. Res.</i> , 1995 , 28(9), 366-374	
EXAMINER		DATE CONSIDERED	



Form PTO-1449 Modified		Docket No. ISIS0085-100	Serial No. 10/649,467
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)		Applicant Lex M. Cowsert et al.	
U.S. Department of Commerce Patent and Trademark Office		Filing Date August 27, 2003	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	AK	Englisch et al., "Chemically Modified Oligonucleotides as Probes and Inhibitors", <i>Angewandte Chemie, International Edition</i> , 1991 , 30(6), 613-629	
	AL	Forster et al., "External Guide Sequences for an RNA Enzyme", <i>Science</i> , 1990 , 249, 783-786	
	AM	Freier et al., "The ups and downs of nucleic acid duplex stability: structure-stability studies on chemically-modified DNA:RNA duplexes", <i>Nucl. Acids Res.</i> , 1997 , 25, 4429-4443	
	AN	Glasser, "ISIS Pharmaceuticals Demonstrates Efficacy in Crohn's Disease with its Antisense Drug", <i>Genetic Engin. News</i> , 1997 , 17, 1	
	AO	Gruss et al., "CD40/CD40 Ligand Interactions in Normal, Reactive and Malignant Lympho-Hematopoietic Tissues", <i>Leuk. Lymphoma</i> , 1997 , 24, 393-422	
	AP	Haseloff et al., "Simple RNA enzymes with new and highly specific endoribonuclease activities", <i>Nature</i> , 1988 , 334, 585-591	
	AQ	Hyrup, B. et al., "Peptide Nucleic Acids (PNA): Synthesis, Properties and Potential Applications", <i>Bioorg. Med. Chem.</i> , 1996 , 4(1), 5-23	
	AR	Janeway, "How the Immune System Recognizes Invaders", <i>Sci. Amer.</i> , 1993 , 269, 73-79	
	AS	Kabanov et al., "A new class of antivirals: antisense oligonucleotides combined with a hydrophobic substituent effectively inhibit influenza virus reproduction and synthesis of virus-specific proteins in MDCK cells", <i>FEBS Letts.</i> , 1990 , 259(2), 327-330	
	AT	Kahn, "From Genome to Proteome: Looking at a Cell's Proteins", <i>Science</i> , 1995 , 270, 369-370	
EXAMINER		DATE CONSIDERED	



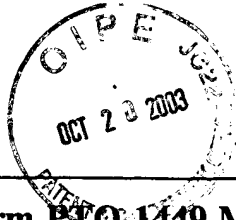
Form PTO-1449 Modified		Docket No. ISIS0085-100	Serial No. 10/649,467
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)		Applicant Lex M. Cowsert et al.	
U.S. Department of Commerce Patent and Trademark Office		Filing Date August 27, 2003	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	AU	Kluth et al., "Endothelial Expression of CD40 in Renal Cell Carcinoma", <i>Cancer Res.</i> , 1997, 57, 891-899	
	AV	Kroschwitz, J.I. (ed.), "Polynucleotides", <i>Concise Encyclopedia of Polymer Science and Engineering</i> , John Wiley & Sons, 1990, 858-859	
	AW	Letsinger et al., "Cholesteryl-conjugated oligonucleotides: Synthesis, properties and activity as inhibitors of replication of human immunodeficiency virus in cell culture", <i>Proc. Natl. Acad. Sci.</i> , 1989, 86, 6553-6556	
	AX	Lima et al., "Implication of RNA Structure on Antisense Oligonucleotide Hybridization Kinetics", <i>Biochem.</i> , 1992, 31, 12055-12061	
	AY	Makgoba et al., "The CD2-LFA-3 and LFA-1-ICAM pathways: relevance to T-cell recognition", <i>Immunol. Today</i> , 1989, 10(12), 417-422	
	AZ	Manoharan et al., "Cholic Acid-Oligonucleotide Conjugates for Antisense Applications", <i>Bioorganic Med. Chem. Letts.</i> , 1994, 4(8), 1053-1060	
	BA	Manoharan et al., "Chemical Modifications to Improve Uptake and Bioavailability of Antisense Oligonucleotides", <i>Ann. N.Y. Acad. Sci.</i> , 1992, 660, 306-309	
	BB	Manoharan et al., "Introduction of a Lipophilic Thioether Tether in the Minor Groove of Nucleic Acids for Antisense Applications", <i>Bioorg. Med. Chem. Letts.</i> , 1993, 3(12), 2765-2770	
	BC	Manoharan et al., "Lipidic Nucleic Acids", <i>Tetrahedron Letts.</i> , 1995, 36(21), 3651-3654	
	BD	Manoharan et al., "Oligonucleotide Conjugates: Alteration of the Pharmacokinetic Properties of Antisense Agents", <i>Nucleosides & Nucleotides</i> , 1995, 14(3-5), 969-973	
EXAMINER		DATE CONSIDERED	



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. ISIS0085-100	Serial No. 10/649,467
		Applicant Lex M. Cowsert et al.	
		Filing Date August 25, 2003	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	BE	Martin et al., "Ein neuer Zugang zu 2'-O-Alkylribonucleosiden und Eigenschaften deren Oligonucleotide", <i>Helv. Chim. Acta</i> , 1995 , 78, 486-504 (English summary included)	
	BF	Mishra et al., "Improved leishmanicidal effect of phosphorotioate antisense oligonucleotides by LDL-mediated delivery", <i>Biochim. Biophys. Acta</i> , 1995 , 1264, 229-237	
	BG	Miura et al., "Fluorometric determination of total mRNA with oligo(dT) immobilized on microtiter plates", <i>Clin. Chem.</i> , 1996 , 42(11), 1758-1764	
	BH	Nielsen et al., "Sequence-Selective Recognition of DNA by Strand Displacement with a Thymine-Substituted Polyamide", <i>Science</i> , 1991 , 254, 1497-1500	
	BI	Nowak, "Entering the Postgenome Era", <i>Science</i> , 1995 , 270, 368-371	
	BJ	Oberhauser et al., "Effective incorporation of 2'-O-methyl-oligonucleotides into liposomes and enhanced cell association through modification with thiocholesterol", <i>Nucl. Acids Res.</i> , 1992 , 20(3), 533-538	
	BK	Saison-Behmoaras et al., "Short modified antisense oligonucleotides directed against Ha-ras point mutation induce selective cleavage of the mRNA and inhibit T24 cells proliferation", <i>EMBO J.</i> , 1991 , 10(5), 1111-1118	
	BL	Sanghvi, Y.S. et al., "Heterocyclic Base Modifications in Nucleic acids and their Applications in Antisense Oligonucleotides", <i>Antisense Research and Applications</i> , CRC Press, Boca Raton, <i>Chapter 15</i> , 1993 , 273-288	
	BM	SantaLucia et al., "Improved Nearest-Neighbor Parameters for Predicting DNA Duplex Stability", <i>Biochem.</i> , 1996 , 35, 3555-3562	
EXAMINER		DATE CONSIDERED	



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. ISIS0085-100	Serial No. 10/649,467
		Applicant Lex M. Cowsert et al.	
		Filing Date August 27, 2003	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	BN	Shea et al., "Synthesis, hybridization properties and antiviral activity of lipid-oligodeoxynucleotide conjugates", <i>Nucl. Acids Res.</i> , 1990 , 18(13), 3777-3783	
	BO	Serra et al., "Predicting Thermodynamic Properties of RNA", <i>Meth. Enzymol.</i> , 1995 , 259, 242-261	
	BP	Sugimoto et al., "Thermodynamic Parameters to Predict Stability of RNA/DNA Hybrid Duplexes", <i>Biochem.</i> , 1995 , 34, 11211-11216	
	BQ	Svinarchuk et al., "Inhibition of HIV proliferation in MT-4 cells by antisense oligonucleotide conjugated to lipophilic groups", <i>Biochimie</i> , 1993 , 79, 49-54	
	BR	Szoka, "Many are probed, but few are chosen", <i>Nature Biotech.</i> , 1997 , 15, 509	
EXAMINER		DATE CONSIDERED	



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowser	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	BS	3,687,808	08/29/72	Merigan	195	28
	BT	4,469,863	09/04/84	Ts'o et al.	536	27
	BU	4,476,301	10/09/84	Imbach et al.	536	27
	BV	4,587,044	05/06/86	Miller et al.	530	211
	BW	4,605,735	08/12/86	Miyoshi et al.	536	27
	BX	4,667,025	05/19/87	Miyoshi et al.	536	27
	BY	4,762,779	08/09/88	Snitman	435	6
	BZ	4,789,737	12/06/88	Miyoshi et al.	536	27
	CA	4,824,941	04/25/89	Gordon et al.	530	403
	CB	4,828,979	05/09/89	Klevan et al.	435	6
	CC	4,835,263	05/30/89	Nguyen et al.	536	27
	CD	4,845,205	07/04/89	Huynh Dinh et al.	536	28
	CE	4,876,335	10/24/89	Yammane et al.	536	27
	CF	4,904,582	02/27/90	Tullis	435	6
	CG	4,948,882	08/14/90	Ruth	536	27

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES	NO
	CH	WO 86/07363 (claims only included)	12/18/86	PCT	X	
	CI	WO 94/02499	02/03/94	PCT	X	
	CJ	WO 94/17093	08/04/94	PCT	X	

**Form PTO-1449 Modified**

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS0085-100

Serial No.
10/649,467

Applicant
Lex M. Cowsert

Filing Date
August 27, 2003

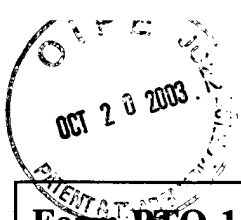
Group
Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	CK	4,958,013	09/18/90	Letsinger	536	27
	CL	4,981,957	01/01/91	Lebleu et al.	536	27
	CM	5,013,830	05/07/91	Ohtsuka et al.	536	27
	CN	5,023,243	06/11/91	Tullis	514	44
	CO	5,034,506	07/23/91	Summerton et al.	528	391
	CP	5,082,830	01/21/92	Brakel et al.	514	44
	CQ	5,109,124	04/28/92	Ramachandran et al.	536	27
	CR	5,112,963	05/12/92	Pieles et al.	536	27
	CS	5,118,800	06/02/92	Smith et al.	536	23
	CT	5,118,802	06/02/92	Smith et al.	536	27
	CU	5,130,302	12/24/91	Neustadt	514	211
	CV	5,134,066	07/28/92	Rogers et al.	435	91
	CW	5,138,045	08/11/92	Cook et al.	536	27
	CX	5,149,797	09/22/92	Pederson et al.	536	27
	CY	5,166,315	11/24/92	Summerton et al.	528	406

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO
	CZ	WO 95/28640	10/26/95	PCT	X

**Form PTO-1449 Modified**

Docket No.

10/649,467

Serial No.

10/649,467

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

Applicant

Lex M. Cowser

U.S. Department of Commerce
Patent and Trademark Office

Filing Date

August 27, 2003

Group

Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	DA	5,175,273	12/29/92	Bischofberger et al.	536	27
	DB	5,177,196	01/05/93	Meyer, Jr. et al.	536	22.1
	DC	5,177,198	01/05/93	Spielvogel et al.	536	25.33
	DD	5,185,444	02/09/93	Summerton et al.	544	81
	DE	5,188,897	02/23/93	Suhadolnik et al.	428	402.2
	DF	5,214,134	05/25/93	Weis et al.	536	25.3
	DG	5,214,136	05/25/93	Lin et al.	514	44
	DH	5,216,141	06/01/93	Benner	536	27.13
	DI	5,218,105	06/08/93	Cook et al.	536	25.31
	DJ	5,220,007	06/15/93	Pederson et al.	536	23.1
	DK	5,223,618	06/29/93	Cook et al.	544	276
	DL	5,235,033	08/10/93	Summerton et al.	528	391
	DM	5,245,022	09/14/93	Weis et al.	536	24.5
	DN	5,254,469	10/19/93	Warren, III et al.	435	188
	DO	5,256,775	10/26/93	Froehler	536	25.6

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES	NO



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowser	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	DP	5,258,506	11/02/93	Urdea et al.	536	23.1
	DQ	5,262,536	11/16/93	Hobbs, Jr.	546	25
	DR	5,264,423	11/23/93	Cohen et al.	514	44
	DS	5,264,562	11/23/93	Matteucci	536	23.1
	DT	5,264,564	11/23/93	Matteucci	536	23.1
	DU	5,272,250	12/21/93	Spielvogel et al.	530	300
	DV	5,276,019	01/04/94	Cohen et al.	514	44
	DW	5,278,302	01/11/94	Caruthers et al.	536	24.5
	DX	5,286,717	02/15/94	Cohen et al.	514	44
	DY	5,292,873	03/08/94	Rokita et al.	536	24.3
	DZ	5,317,098	05/31/94	Shizuya et al.	536	23.1
	EA	5,319,080	06/07/94	Leumann	536	27.1
	EB	5,321,131	06/14/94	Agrawal et al.	536	25.34
	EC	5,359,044	10/25/94	Cook et al.	536	23.1
	ED	5,366,878	11/22/94	Pederson et al.	435	91.3

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	

OCT 20 2003

Sheet 10 of 25

Form PTO-1449 Modified

Docket No.

ISIS0085-100

Serial No.

10/649,467

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

Applicant

Lex M. Cowsert

U.S. Department of Commerce
Patent and Trademark Office

Filing Date

August 27, 2003

Group

Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	EE	5,367,066	11/22/94	Urdea et al.	536	24.3
	EF	5,371,241	12/06/94	Brush	549	220
	EG	5,472,672	12/05/95	Brennan	422	131
	EH	5,378,825	01/03/95	Cook et al.	536	25.34
	EI	5,386,023	01/31/95	Sanghvi et al.	536	25.3
	EJ	5,391,723	02/21/95	Priest	536	23.1
	EK	5,393,878	02/28/95	Leumann	536	28.2
	EL	5,399,676	03/21/95	Froehler	536	23.1
	EM	5,403,711	04/04/95	Walder et al.	435	6
	EN	5,405,938	04/11/95	Summerton et al.	528	406
	EO	5,405,939	04/11/95	Suhadolnik et al.	530	322
	EP	5,414,077	05/09/95	Lin et al.	536	24.3
	EQ	5,416,203	05/16/95	Letsinger	536	25.34
	ER	5,432,272	07/11/95	Benner	536	25.3
	ES	5,434,257	08/18/95	Matteucci et al.	536	24.3

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO



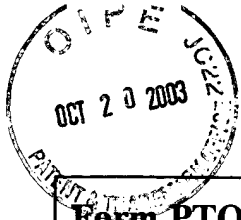
Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowsert	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	ET	5,446,137	08/29/95	Maag et al.	536	23.1
	EU	5,451,463	09/19/95	Nelson et al.	428	402
	EV	5,453,496	09/26/95	Caruthers et al.	536	24.5
	EW	5,455,233	10/03/95	Spielvogel et al.	514	44
	EX	5,457,187	10/10/95	Gmeiner et al.	536	25.5
	EY	5,459,255	10/17/95	Cook et al.	536	27.13
	EZ	5,466,677	11/14/95	Baxter et al.	514	44
	FA	5,466,786	11/14/95	Buhr et al.	536	26.26
	FB	5,470,967	11/28/95	Huie et al.	536	24.3
	FC	5,472,672	12/05/95	Brennan	422	131
	FD	5,476,925	12/19/95	Letsinger et al.	536	23.1
	FE	5,484,908	01/16/96	Froehler et al.	536	24.31
	FF	5,486,603	06/23/96	Buhr	536	24.3
	FG	5,489,677	02/06/96	Sanghvi et al.	536	22.1
	FH	5,491,133	02/13/96	Walder et al.	514	44

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO



Form PTO-1449 Modified

List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)

U.S. Department of Commerce
Patent and Trademark Office

Docket No.
ISIS0085-100

Serial No.
10/649,467

Applicant
Lex M. Cowsert

Filing Date
August 27, 2003

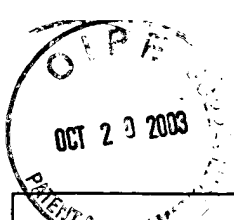
Group
Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	FI	5,502,177	03/26/96	Matteucci et al.	536	26.6
	FJ	5,508,270	04/16/96	Baxter et al.	514	47
	FK	5,510,475	04/23/96	Agrawal et al.	536	24.3
	FL	5,512,439	04/30/96	Hornes et al.	435	6
	FM	5,512,667	04/30/96	Reed et al.	536	24.31
	FN	5,514,785	05/07/96	Van Ness et al.	536	22.1
	FO	5,519,126	05/21/96	Hecht	536	24.3
	FP	5,519,134	05/21/96	Acevedo et al.	544	243
	FQ	5,523,389	06/04/96	Ecker et al.	536	23.1
	FR	5,525,465	06/11/96	Haralambidis et al.	435	6
	FS	5,525,711	06/11/96	Hawkins et al.	536	22.1
	FT	5,529,756	06/25/96	Brennan	422	131
	FU	5,536,821	07/16/96	Agrawal et al.	536	22.1
	FV	5,539,082	07/23/96	Nielsen et al.	530	300
	FW	5,541,306	07/30/96	Agrawal et al.	536	22.1

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowser	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	FX	5,541,313	07/30/96	Ruth	536	24.3
	FY	5,541,307	07/30/96	Cook et al.	536	23.1
	FZ	5,543,508	08/06/96	Haseloff et al.	536	23.2
	GA	5,545,730	08/13/96	Urdea et al.	536	28.51
	GB	5,550,111	08/27/96	Suhadolnik et al.	514	44
	GC	5,552,538	09/03/96	Urdea et al.	536	24.3
	GD	5,552,540	09/03/96	Haralambidis	536	25.34
	GE	5,554,613	09/10/96	Mallion	514	253
	GF	5,561,225	10/01/96	Maddry et al.	536	23.1
	GG	5,563,036	10/08/96	Peterson et al.	435	6
	GH	5,563,253	10/08/96	Agrawal et al.	536	22.1
	GI	5,565,350	10/15/96	Kmiec	435	172.3
	GJ	5,565,552	10/15/96	Magda et al.	534	11
	GK	5,567,810	10/22/96	Weis et al.	536	25.3
	GL	5,567,811	10/22/96	Misiura et al.	536	25.34
	GM	5,571,799	11/05/96	Tkachuk et al.	514	47
	GN	5,574,142	11/12/96	Meyer, Jr. et al.	536	23.1

FOREIGN PATENT DOCUMENTS

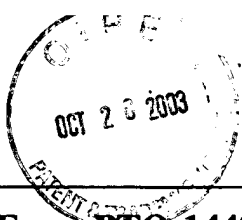
Examiner Initial		Document No.	Date	Country	Translation YES	NO

**Form PTO-1449 Modified**Docket No.
ISIS0085-100Serial No.
107649,467List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)Applicant
Lex M. CowsertU.S. Department of Commerce
Patent and Trademark OfficeFiling Date
August 27, 2003Group
Not Yet Assigned**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
	GO	5,576,427	11/19/96	Cook et al.	536	23.1
	GP	5,578,717	11/26/96	Urdea et al.	536	26.1
	GQ	5,578,718	11/26/96	Cook et al.	536	27.21
	GR	5,580,731	12/03/96	Chang et al.	435	6
	GS	5,585,481	12/17/96	Arnold, Jr. et al.	536	25.33
	GT	5,587,361	12/24/96	Cook et al.	514	44
	GU	5,587,371	12/24/96	Sessler et al.	514	185
	GV	5,587,469	12/24/96	Cook et al.	536	23.1
	GW	5,591,584	01/07/97	Chang et al.	435	6
	GX	5,591,722	01/07/97	Montgomery et al.	514	45
	GY	5,594,121	01/14/97	Froehler et al.	536	23.5
	GZ	5,595,726	01/21/97	Magda et al.	424	9.61
	HA	5,596,086	01/21/97	Matteucci et al.	536	22.1
	HB	5,596,091	01/21/97	Switzer	536	24.5
	HC	5,597,696	01/28/97	Linn et al.	435	6

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES	NO



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowsert	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	HD	5,597,909	01/28/97	Urdea et al.	536	24.3
	HE	5,599,923	02/04/97	Sessler et al.	540	145
	HF	5,599,928	02/04/97	Hemmi et al.	540	474
	HG	5,602,240	02/11/97	De Mesmaeker et al.	536	23.1
	HH	5,608,046	03/04/97	Cook et al.	536	23.1
	HI	5,610,289	03/11/97	Cook et al.	536	25.34
	HJ	5,610,300	03/11/97	Altmann et al.	544	244
	HK	5,614,617	03/25/97	Cook et al.	536	23.1
	HL	5,618,704	04/08/97	Sanghvi et al.	435	91.5
	HM	5,623,065	04/22/97	Cook et al.	536	23.1
	HN	5,623,070	04/22/97	Cook et al.	536	27.6
	HO	5,625,050	04/29/97	Beaton et al.	536	24.1
	HP	5,627,053	05/06/97	Usman et al.	435	91.1
	HQ	5,633,360	05/27/97	Bischofberger et al.	536	22.1
	HR	5,639,873	06/17/97	Barascut et al.	536	25.3

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	

**Form PTO-1449 Modified**Docket No.
ISIS0085-100Serial No.
10/649,467List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)Applicant
Lex M. CowsertU.S. Department of Commerce
Patent and Trademark OfficeFiling Date
August 27, 2003Group
Not Yet Assigned**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
	HS	5,646,265	07/08/97	McGee	536	25.34
	HT	5,652,355	07/29/97	Metelev et al.	536	24.5
	HU	5,652,356	07/29/97	Agrawal	536	24.5
	HV	5,658,873	08/19/97	Bertsch-Frank et al.	510	375
	HW	5,663,312	09/02/97	Chaturvedula	536	22.1
	HX	5,670,633	09/23/97	Cook et al.	536	23.1
	HY	5,677,437	10/14/97	Teng et al.	536	23.1
	HZ	5,677,439	10/14/97	Weis et al.	536	23.1
	IA	5,681,941	10/28/97	Cook et al.	536	23.1
	IB	5,688,941	11/18/97	Cook et al.	536	25.3
	IC	5,693,463	12/02/97	Edwards et al.	435	6
	ID	5,696,248	12/09/97	Peyman et al.	536	22.1
	IE	5,700,920	12/23/97	Altmann et al.	536	221
	IF	5,700,922	12/23/97	Cook	536	23.1
	IG	5,708,158	01/13/98	Hoey	536	23.5

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES	NO



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowser	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	IH	5,714,331	02/03/98	Buchardt et al.	435	6
	II	5,716,780	02/10/98	Edwards et al.	435	6
	IJ	5,719,262	02/17/98	Buchardt et al.	530	300
*	IK	08/465,880	06/06/95	Cook		
*	IL	08/468,037	06/06/95	Cook et al.		
*	IM	08/762,488	12/01/96	Cook et al.		

FOREIGN PATENT DOCUMENTS

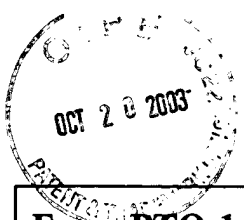
Examiner Initial		Document No.	Date	Country	Translation YES NO

EXAMINER**DATE CONSIDERED**

*Pursuant to 37 C.F.R. 1.97(a)(2)(iii), no copy of a U.S. patent application need be included with an Information Disclosure Statement filed under 37 C.F.R. 1.97.



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. ISIS0085-100	Serial No. 10/649,467
		Applicant Lex M. Cowsert et al.	
		Filing Date August 27, 2003	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	IN	Ghosh, M.K. et al., "Evaluation of some properties of a phosphorodithioate oligodeoxyribonucleotide for antisense application," <i>Nucl. Acid Res.</i> , 1993 , 21(24), 5761-5766	
	IO	Mirabelli, C.K. et al., "In vitro and in vivo pharmacologic activities of antisense oligonucleotides," <i>Anti-Cancer Drug Des.</i> , 1991 , 6, 647-661	
	IP	Uhlmann, E. et al., "Antisense Oligonucleotides: A New Therapeutic Principle," <i>Chem. Reviews</i> , 1990 , 90(4), 544-584	
EXAMINER		DATE CONSIDERED	



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowser	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	AD	4,806,463	02/21/89	Goodchild et al.	435	5
	IQ					
	AMR	5,436,327	07/25/95	Southern et al.	536	25.34
	IS	5,612,455	03/18/97	Hoey	530	350
	IT	5,700,637	12/23/97	Southern	435	6
	IU	5,824,485	10/20/98	Thompson et al.	435	6

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO
	AI	WO 89/10977	11/16/89	PCT	X

EXAMINER**DATE CONSIDERED**

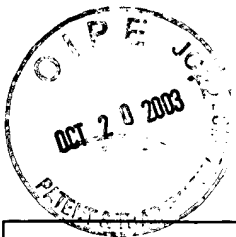
**Form PTO-1449 Modified**Docket No.
ISIS0085-100Serial No.
10/649,467List of Patent and Publications
Cited by Applicant
(Use several sheets if necessary)Applicant
Lex M. CowserU.S. Department of Commerce
Patent and Trademark OfficeFiling Date
August 27, 2003Group
Not Yet Assigned**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
	IV	5,697,248	12/16/97	Brown et al.	73	290

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO

EXAMINER**DATE CONSIDERED**



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowsert	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	IW	5,696,248	12/09/97	Peyman et al.	536	22.1

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO

EXAMINER	DATE CONSIDERED
-----------------	------------------------



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Application No. 10/649,467
	Applicant Lex M. Cowser, et al.	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	IX	5,463,564	10/31/95	Agrafiotis, et al.	364	496
	IY	5,639,603	06/17/97	Dower, et al.	435	6
	IZ	5,650,122	07/22/97	Harris, et al.	422	81
	JA	5,684,711	11/04/97	Agrafiotis, et al.	364	500
	JB	5,720,923	07/22/97	Harris, et al.,	422	68.1

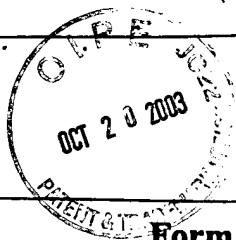
FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO
*	JC	WO 93/04204	03/04/93	PCT		
*	JD	WO 98/03533	01/29/98	PCT		
	JE	WO 98/37242	08/27/98	PCT		
	JF	0 514 927	11/1992	EPO		

EXAMINER

DATE CONSIDERED

* Cited on the EPO Supplemental Partial European Search Report dated March 28, 2003.



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. ISIS0085-100	Serial No. 10/649,467
	Applicant Lex M. Cowser, et al.	
	Filing Date August 27, 2003	Group Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	JG	5,697,248	12/16/97	Brown et al.	73	290
	JH	4,806,463	02/21/89	Goodchild et al.	435	5
	JJ	5,436,327	07/25/95	Southern et al.	536	25.34
	JK	5,612,455	03/18/97	Hoey	530	350
	JL	5,700,637	12/23/97	Southern	435	6
	JM	5,824,485	10/20/98	Thompson et al.	435	6

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation	
					YES	NO

EXAMINER	DATE CONSIDERED
-----------------	------------------------



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. ISIS0085-100	Serial No. 10/649,467
		Applicant Lex M. Crowser, Et Al.	
		Filing Date August 27, 2003	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	JN	Cooper, H.D., et al., "Software of determine optimal oligonucleotide sequences based on hybridization simulation data, <i>Biotechniques</i> , June 1996, 20(6), 1096-1097 (Abstract only)	
	JO	DeCamp, D., et al., "Site-directed drug design," <i>Protein Engineering, Principles and Practice</i> , Cleland, J.L., et al. (Ed.), 1996, Chapter 17, 467-472	
	JP	Genome Analysis - A Laboratory Manual, "Analyzing DNA," 1997, Vol. 1, 574-578	
	JQ	Lomakin, A., et al., "A theoretical analysis of specificity of nucleic acid interactions with oligonucleotides and peptide nucleic acids (PNAs)," <i>J. Molecular Biology</i> , February 13, 1998, 276(1), 1-24	
	JR	Parzel, V., et al., "Theoretical design of antisense RNA structures substantially improves annealing kinetics and efficacy in human cells," <i>Nat. Biotechnol</i> , January 1998, 16(1), 24 (Abstract only)	
EXAMINER		DATE CONSIDERED	



Sheet 25 of 25

Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. ISIS0085-100	Application No. 10/649,467
		Applicant Lex M. Cowsert	
		Filing Date August 27, 2003	Group Not Yet Assigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	JS	<i>Development of Medicine, 1998, 184(3), 225-231 (No English translation is available)</i>	
EXAMINER		DATE CONSIDERED	